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Weather and English Wheat Yields

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Using data from Agricultural Stations, it was found that in the 1950-59 period, there was a high correlation between English national yields and an improvement factor (partial correlation 0.95) and the potential transpiration (A) for July and half that for August (partial correlation 0.86), each meaned by weighting county values by wheat acreages. The equation being

$$\text{Yield (cwt/acre)} = 1.98A + 0.65_n + 11.$$

where n is number of years after 1950

This equation does not survive extrapolation into the 1960s partly because the method of yield assessment changed 1961 to 1962. The 1962 yield, as published, seems impossibly high. It is also possible that diseases had more effects on crop yields in the latter decade.

The data are given in the Appendix.

APPENDIX

Year	English Wheat Yields	July + August 2 Pot.Trans	Estimated Yields
1950	21.1	5.20	21.3
1951	21.7	5.30	22.1
1952	22.6	5.20	22.6
1953	24.0	5.45	23.7
1954	22.6	4.50	22.5
1955	26.7	6.00	26.1
1956	24.8	4.70	24.2
1957	25.4	4.60	24.7
1958	24.6	4.95	26.0
1959	28.8	6.05	28.8

For 1962 n = 12 PT = 4.50

estimated yield = 27.7
reported yield = 34.8

Any comments or suggestions on this paper should be referred to the author.

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